ABSTRACT

A non-human transgenic animal that is transgenic for an antibody or fragments thereof and having a phenotype reminiscent of human pathology. The human pathology includes neurodegenerative syndromes, muscular atrophy/dystrophy and immune disorders. The animals may be used in a method for early diagnosis of neurodegenerative diseases. The method includes monitoring the occurrence of the tau hyperphosphorylation and/or amyloid deposition in the back or lower limb skeletal muscle sample of a subject. Cells are derivable from the non-human transgenic animal and secreting the transgenic antibody. The cells are used for the selection of molecules pharmacologically effective in neurodegenerative and/or muscular pathologies and/or immune disorders. A non-human transgenic animal may be prepared by providing a first non-human transgenic parent animal for the light chain of an antibody and a second non-human transgenic parent animal for the heavy chain of the same antibody, breeding the two transgenic parent animals and selecting the progeny expressing both the light and the heavy chain.